

### **Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

Claims 1 -15 (Cancelled).

16. (New) An information handling system, comprising:

- an instruction of fixed length comprising a first field for specifying a plurality of other fields, the first field being used to address registers into a register file, the register file comprising a size larger than the first field can address;

- an indirection table comprising a plurality of entries, which are indexed by said first field in the instruction, each entry storing a plurality of register identifiers; and

- a decoder for decoding the instruction that uses the indirection table to address a register file.

17. (New) The system of claim 16, further comprising a compiler that generates compiler instructions that use the indirection table to perform a conversion, the conversion comprising:

- allocating an indirection table entry;

- storing the register values in said indirection table entry; and

- generating a new instruction that uses said indirection table entry.

18. (New) The system of claim 17, wherein the compiler generates three-address instructions for a large virtual register file, the system further comprising a code generation pass that converts said three-address instructions into instructions using the indirection table.

19. (New) The system of claim 16, further comprising a binary rewriting tool that converts three-address instructions into instructions that use the indirection table.

20. (New) The system of claim 16, wherein the decoder further comprises logic for:
  - extracting from the instruction said field identifying the register fields;
  - using said field to index into the indirection table; and
  - expanding the instruction using said entry from the indirection tableaddress the register file using the expanded instruction.
21. (New) The system of claim 16, further comprising a compatibility mode, in which instructions can directly access the register file, without going through the indirection table
22. (New) A method comprising:
  - using an instruction of fixed length for specifying a plurality of fields, a first field being used to address registers into a register file, of a size larger than the first field can address;
  - using an indirection table, comprising a plurality of entries,
  - indexing each entry by said first field in the instruction;
  - storing a plurality of register identifiers in each entry; and
  - decoding the instruction that uses the indirection table to address a register file.
23. (New) The method of claim 22 further comprising steps of:
  - allocating an indirection table entry;
  - storing the register values in said indirection table entry; and
  - generating a new instruction that uses said indirection table entry.
24. (New) The method of claim 22 further comprising a step of converting said instruction into the new instruction using the indirection table.
25. (New) The method of claim 22 further comprising a step of converting a three-address instruction into the instruction that uses the indirection table.

26. (New) A computer readable medium comprising computer code for causing a processor to:

- use an instruction of fixed length for specifying a plurality of fields, a first field being used to address registers into a register file, of a size larger than the first field can address;
- use an indirection table, comprising a plurality of entries,
- index each entry by said first field in the instruction;
- store a plurality of register identifiers in each entry; and
- decode the instruction that uses the indirection table to address a register file.

27. (New) The computer readable medium of claim 26 further comprising computer code for causing a processor to:

- allocate an indirection table entry;
- store the register values in said indirection table entry; and
- generate a new instruction that uses said indirection table entry.

28. (New) The computer readable medium of claim 26 further comprising computer code for causing a processor to convert the instruction into the new instruction using the indirection table.

29. (New) The computer readable medium of claim 26 further comprising computer code for causing a processor to convert a three-address instruction into an instruction that uses the indirection table.